

Appl. No. 10/082,728
Amdt. Dated Jan. 6, 2005
Reply to Office Action of November 07, 2005

REMARKS/ARGUMENTS

In the Final Office action mailed on November 7, 2005, claims 1-21, 25 were rejected under 35 U.S.C. §102 (e) as being anticipated by Richards et al. (U.S. Publication No. 2002/006108, hereinafter "Richards").

Claims 1-21 and 25 remain pending in this application. Reconsideration in light of the following remarks is respectfully requested.

Claims define allowable subject matter over the applied art

Claims 1-21, 25 were rejected under 35 U.S.C. §102 (e) as being anticipated by Richards. Applicant has carefully re-reviewed the applied reference and the Examiner's response included in the Final Office action dated November 7, 2005, and respectfully traverses the rejection of independent claims 1, 14, and 25 under 35 U.S.C. §102 (e) as being anticipated by Richards. Anticipation requires that each and every element of the claim must be taught by the reference. Applicant respectfully submits that Richards does not teach, suggest or disclose each element of Applicant's recited invention.

Richards describes a technique for reducing interference in an impulse radio receiver. In Richards technique, a signal including an impulse signal and potential interference is received by the impulse radio. (See, Paragraph [0019], [0025] and [0026].

Applicant respectfully reiterates that Richards does not teach, disclose or suggest the following claim recitations (emphasis added):

With respect to independent claims 1, and 14, Richards does not disclose, teach or suggest the claim recitations of "producing ultra wideband downconverted pulses from the **transmitted reference ultra wideband communications signal**", and with respect to independent claim 25, Richards does not disclose, teach or suggest the claim recitations of "receiving the **transmitted reference ultra wideband communications signals** using an antenna", and "downconverting the **transmitted reference ultra wideband communications signals** into **downconverted ultra wideband pulses**".

The technique described in the Applicant's application includes a distributed receiving system and a method for proper synchronization and proper demodulation of TR-UWB (transmitted reference ultra wideband) signals. TR-UWB communications is defined as the transmission of two versions of a wideband carrier where one version is modulated by data and the other version is unmodulated (see, Background, paragraph [0004]). Those skilled in the art, know that the TR-UWB signal consists of *two pulses*. The first is a reference pulse which is

Appl. No. 10/082,728
Amdt. Dated Jan. 6, 2005
Reply to Office Action of November 07, 2005

constant across frames. The second, which follows at some known delay, is a "data pulse" whose polarity indicates the data bit. Figure 2 in the Applicant's application and the related discussion in paragraph [0017] describe an embodiment of the downconversion processing.

As mentioned in the previous office action Response dated August 31, 2005, though Richards does deal with ultra wideband signals, the focus of Richards is on interference minimization and not for producing downconverted pulses in the manner as described by the Applicant. It is well known to those skilled in the art that the different techniques maybe used to generate the ultra wide band signals by varying the radio techniques, propagation characteristics and application capability. Richards' technique specifically is not directed to TR-UWB signals, it is directed towards stored reference ultra wideband (SR-UWB) signals. In SR-UWB communication, one correlator is needed for each multipath component and distinct channels are used for each multipath. Channel estimation is done for each channel based on a stored reference signal. Examiner has referred to paragraph [0184] in Richards as disclosing a front-end correlator and the recitations as highlighted above. Paragraph [0184] in Richards states,

"The impulse radio receiver is typically a direct conversion receiver with a cross correlator front end in which the front end coherently converts an electromagnetic pulse train of monocycle pulses to a baseband signal"

Firstly, Richards in the paragraph [0184] teaches a pulse train of monocycle pulses and not the TR-UWB pulses (two pulses) as recited in the independent claims. Secondly, also with respect to the correlator, Richards teaches a cross correlator. A cross correlator has two independent channels and is therefore distinct from the correlator as recited in the independent claims of the Applicant's application.

Furthermore, the Examiner has referred to the downconversion as being inherently implied within an impulse radio communication. Applicant respectfully submits that in order to establish inherency, the extrinsic evidence 'must make clear' (MPEP section 2112, sub-section IV) that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. Since the ultra wideband spectra may be generated in different ways, Applicant respectfully submits that the Examiner has not established a sufficient basis for making the rejection under 25 USC 102(e) based on inherency.

Thus, Richards is completely devoid of any teaching, disclosure or suggestion that can lead to the above mentioned claim recitations of independent claims 1, 14, and 25. Thus the Applicant respectfully submits that the independent claims 1, 14, and 25, are not anticipated by Richards under 35 U.S.C. §102 and therefore, are allowable. Claims 2-13 depend directly or indirectly from claim 1, and claims 15-21 depend directly or indirectly from claim 14. These dependent claims are similarly allowable.

Appl. No. 10/082,728

Amdt. Dated Jan. 6, 2005

Reply to Office Action of November 07, 2005

In view of the foregoing remarks, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. §102 (e).

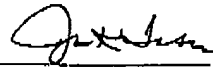
Summary

In view of the foregoing, Applicant respectfully submits that the application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.

Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact Applicant's undersigned representative at the telephone number below.

Respectfully submitted,

By



Jean Testa

Reg. No. 39,396

General Electric Company

Building K1, Room 3A62

Schenectady, New York 12301

Telephone: (518) 387-5115